Municipal Solid-State STREET LIGHTING CONSORTIUM

Sponsored by the U.S. Department of Energy

Introduction to the MSSLC Retrofit Financial Analysis Tool

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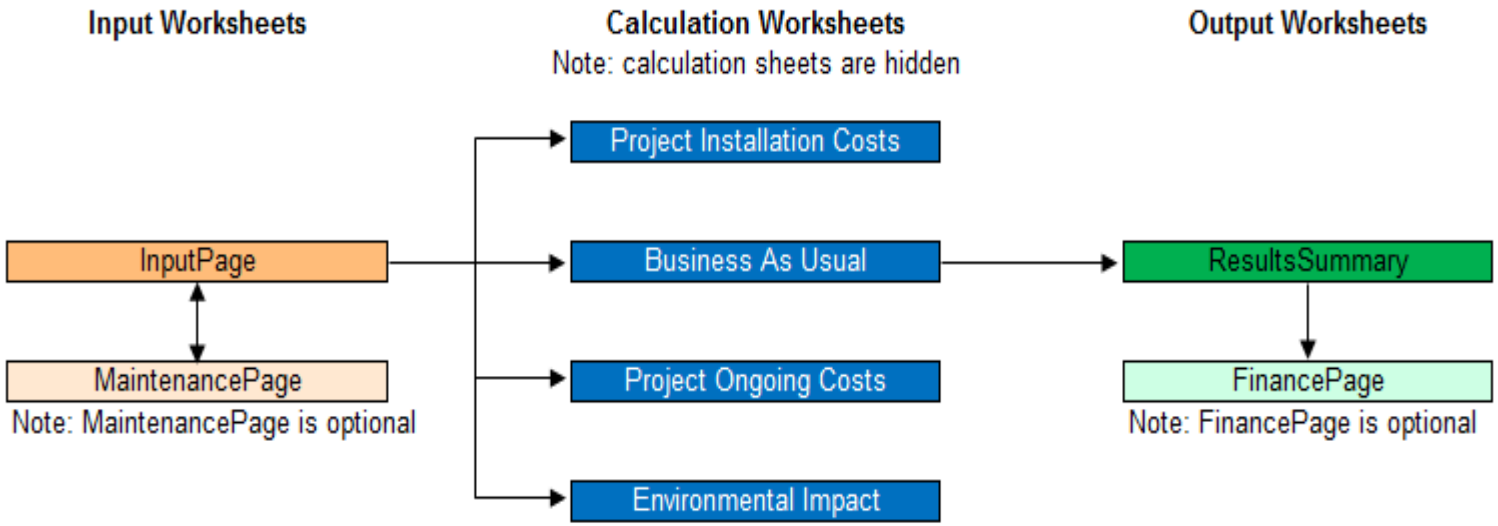
http://seattle.gov.light | *www.ssl.energy.gov/consortium.html*

Purpose and Background

- Tool created to evaluate costs and benefits of conversions to LED street lighting.
- May be used to analyze any street-lighting technology.
- Detailed analysis provides numerous outputs, including:
  - Annual energy and energy-cost savings
  - Annual maintenance savings
  - Annual greenhouse gas reductions
  - Simple payback
  - Internal rate of return
  - Net present value
- Collaborative effort
  - Clinton Climate Initiative http://www.clintonfoundation.org/what-we-do/clinton-climate-initiative/
  - Municipal Solid-State Lighting Consortium http://www1.eere.energy.gov/buildings/ssl/consortium.html

Structure and Flow of Tool

- Input page
- Maintenance page (optional)
- Results summary
- Finance page (optional)



Input Page

- Contains all assumptions for project, except optional project finance and detailed maintenance cost assumptions.
- Three sections:
  - Global inputs that affect all analyzed fixtures
    - Includes discount rate, sales tax rate, electricity rate, rates for installation labor and vehicles, GHG emissions factor, and project overhead costs.
  - Technology-specific inputs – section one
    - Enter data for all fixtures/technologies, both old and new.
    - Includes lamp and system watts, operating hours, fixture costs, disposal costs, rebates, and maintenance costs.
  - Technology-specific inputs – section two
    - Impacted fixtures only; select fixture types and quantities to be removed and installed.

Maintenance Page (optional)

- Used to derive maintenance costs, if user does not know them on a $/unit/month basis.
- Provides ability to obtain very detailed estimate of maintenance costs for each technology or fixture type examined.
- Captures both labor and vehicle costs.
- Scheduled maintenance
  - Lamp - Controls
  - Fixture - Cleaning
- Emergency maintenance
  - Lamp - Controls
  - Fixture

Results Summary

- Summary statistics include:
  - Simple payback
  - Internal rate of return
  - Net present value
  - Full-implementation reductions of energy use, energy costs, and greenhouse gases
- 15 years of detailed annual cash flow data
- Charts
  - Cumulative total cash flows over time
  - Pre- and post-project energy consumption comparison
  - Annual cash flows broken out by component over time

Finance Page (optional)

- Provides user ability to examine impacts of various financing options.
  - Up to 8 loans of varying amounts, terms, interest rates, and start years may be examined.
- Produces levered and unlevered summary statistics for project.
  - Net present value
  - Internal rate of return
- Generates detailed annual cash flow data.

Resources

- MSSLC home page: http://www1.eere.energy.gov/buildings/ssl/consortium.html

- MSSLC Retrofit Financial Analysis Tool web page: http://www1.eere.energy.gov/buildings/ssl/financial-tool.html
  - Zip file including two versions of tool (with and without sample data)
  - Document providing helpful tips (which will expand over time)
  - Explanatory video

- Questions about the Retrofit Financial Analysis Tool can be sent to MSSLC@seattle.gov

LED Street Lighting Workshop | Dallas, TX

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Retrofit Financial Analysis tool

Thank You…! Questions?

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